

# ENVIRONMENTAL, GEOGRAPHICAL & GEOLOGICAL SCIENCES: ENVIRONMENTAL GEOSCIENCE

## Bachelor of Science (BS)

This degree map is based on the 2023-24 Academic Catalog and is subject to change. Students should meet with their academic advisor each semester and use Degree Works to monitor their individual progress toward degree completion. The time it takes to earn a degree will vary based on several factors including summer/winter enrollment, dual enrollment and number of courses successfully completed each semester. We recommend taking a minimum of 15 credits each fall and spring semester.

### Sample 4-Year Plan

#### First Year

Fall Courses	Credits	Spring Courses	Credits
EGGS 102 - World Cultural Geography (D)	3	EGGS 105 - Environmental Issues and Choices	3
EGGS 100 - Introduction to Environmental Science	3	EGGS 242 - Mapping and GIS Fundamentals	3
EGGS 120 - Physical Geology (N)	4	EGGS 130 - Historical Geology	4
Quantitative Requirements: Choose 2	3	Gen Ed Foundations - Writing (W)	3
Gen Ed Foundations - FYS (U)	3	Quantitative Requirement: Choose 2	3
Semester Total	16	Semester Total	16

#### Second Year

Fall Courses	Credits	Spring Courses	Credits
EGGS 271 - Fundamentals of Hydrology	3	EGGS 213 - Fundamentals of Soil Science	3
EGGS 360 - Principles of GIS 1	3	EGGS 361 - Principles of GIS 2	3
CHEM 121 - Chemistry for the Sciences 1 (N)	4	PHYS 208 - Introduction Physics 1	4
Gen Ed Creativity and Expression - Literature (L)	3	Gen Ed Interconnections	3
Gen Ed Foundations - Oral Communication (O)	3	Gen Ed Citizenship - Ethical Reasoning	3
Semester Total	16	Semester Total	16

#### Third Year

Fall Courses	Credits	Spring Courses	Credits
EGGS 265 - Geomorphology	3	EGGS 263 - Mineralogy/Petrology	4
EGGS 259 - Oceanography	3	EGGS 380 - Dams, Reservoirs, and Rivers (EGGS Elective #2)	3
EGGS 301 - Water Resources Management (EGGS Elective #1)	3	EGGS 470 - Hydrogeology (EGGS Skills Course #1)	3
Gen Ed Citizenship - Critical Reasoning (R)	3	Gen Ed Natural World & Tech - Technologies (T)	3
		Free Elective	3
Semester Total	12	Semester Total	16

#### Fourth Year

Fall Courses	Credits	Spring Courses	Credits
Free Elective	3	EGGS 496 - Research in EGGS	3
EGGS 471 - Applied Surface Hydrology (EGGS Skills Course #2)	3	Gen Ed Interconnections	3
EGGS 460 - Aqueous Environmental Geochemistry (EGGS Skills Course #3)	4	Gen Ed Creativity and Expression - Arts (A)	3
Gen Ed Foundations - History (H)	3	Free Elective	3
Free Elective	3		
Semester Total	16	Semester Total	12

#### Winter/Summer College - Optional

While not required, Winter and Summer sessions are offered each year and may help you stay on track or get ahead. You may take up to seven (7) credits during Winter College and up to 14 credits during Summer College.

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## ENVIRONMENTAL GEOSCIENCES

### Curriculum Checklist

Total of 57+ credits excluding Directed General Ed

#### Core Requirements – A (Choose 1, 3 credits)

- EGGS 100 Environmental Sciences (3)
- EGGS 105 Environmental Issues & Choices (3)
- EGGS 140 Sustainability Science (3)

#### Core Requirements – B (Choose 1, 0 credits)\*

- EGGS 102 World Cultural Geography (3)
- EGGS 104 World Regional Geography (3)

#### Core Requirements – C (Choose 1, 3 credits)\*\*

- EGGS 100 Environmental Science (3)
- EGGS 101 Physical Geography
- EGGS 105 Environmental Issues & Choices (3)
- EGGS 140 Sustainability Science (3)
- EGGS 220 Environmental Geology (3)

#### Core Requirements – D (Choose 1, 3 credits)

- EGGS 108 Climate Change
- EGGS 218 Global Water Issues
- EGGS 255 Meteorology
- EGGS 259 Oceanography

#### Cognate Requirements (0 credits)

- CHEM 121 Chemistry for the Sciences 1 (4)\*

#### Cognate Electives (Choose 1, 4 credits)

- BIOL 110 Principles of Biology 1 (4)\*
- PHYS 208 Introductory Physics 1 (4)

#### Cognate Math (Choose 2, 3 credits)

- EGGS 150 Quantitative Methods (3)
- MATH 150 Essentials of Calculus (3)\*
- MATH 160 Calculus 1 (4)\*
- STAT 141 Introduction to Statistics (4)\*
- EGGS 342 Geostatistics (3)

#### Major Requirements (23 credits)

- EGGS 120 Physical Geology (4)\*
- EGGS 130 Historical Geology (4)
- EGGS 213 Fundamentals of Soil Science (3)
- EGGS 242 Mapping and GIS Fundamentals (3)
- EGGS 263 Mineralogy & Petrology (4)
- EGGS 265 Geomorphology (3)
- EGGS 271 Fundamentals of Hydrology (3)
- EGGS 360 Principles of GIS 1 (3)

#### Major Electives: Choose 3 (9+ Credits)

- EGGS 275 Introduction to Surveying (3)
- EGGS 325 UAV Applications (3)
- EGGS 353 Geological Mapping & Analysis (3)
- EGGS 368 Sedimentology & Stratigraphy (3)
- EGGS 369 Structural Geology (4)
- EGGS 413 Soil Morphology, Genesis, & Classification (4)
- EGGS 414 Soil Biology, Chemistry, & Fertility (4)
- EGGS 415 Hydric Soils & Wetlands Delineation (4)
- EGGS 416 Applied Soil Science & Land Use (4)
- EGGS 420 Watershed Restoration (3)
- EGGS 421 Environmental Permitting (3)
- EGGS 451 Coastal Environmental Oceanography (3)
- EGGS 455 Environmental Impact Assessment (3)
- EGGS 460 Aqueous Environmental Geochemistry (4)
- EGGS 461 Energy and Mineral Resources (4)
- EGGS 470 Hydrogeology (3)
- EGGS 471 Applied Surface Hydrology (3)
- EGGS 480 Geophysical Methods (4)
- MARSCI ### Any approved Marine Science course (3)

### Curriculum Checklist Continued

#### Cognate Electives (Choose 2, 6 credits)

- BIOL 252 Watershed Ecology Techniques (3)
- BIOL 301 Ecology (3)
- BIOL 340 Microbiology (3)
- BIOL 411 Freshwater Ecology (3)
- BIOL 419 Ecosystems (3)
- BIOL 438 Env Policy and Regulations (3)
- BIOL 456 Ecology of Streams and Rivers (3)
- EGGS 215 Fundamentals of Outdoor Recreation (3)
- EGGS 220 Environmental Geology\*\* (3)
- EGGS 230 Special Topics in Field Env Geoscience (3)
- EGGS 251 Sustainable Food Systems (3)
- EGGS 301 Water Resources Management (3)
- EGGS 302 Land Resources Management (3)
- EGGS 304 Environmental Valuation (3)
- EGGS 305 Environmental Risks and Hazards (3)
- EGGS 313 Soil Morphology Practicum (1+)
- EGGS 320 Remote Sensing (3)
- EGGS 358 Environmental Conservation & Preservation (3)
- EGGS 361 Principles of GIS 2 (3)
- EGGS 364 Digital Cartography (3)
- EGGS 380 Dams, Reservoirs, and Rivers (3)
- EGGS 385 Outdoor Recreation Resources Management (3)
- EGGS 386 US Federal Lands: Geography, Politics, Mgmt (3)
- EGGS 465 Paleontology (4)
- EGGS 491 Research in EGGS\*\* (3)
- EGGS 493 Independent Study in EGGS (3)
- EGGS 498 Internship in EGGS\*\* (3)
- LAWL 350 Environmental Law and Policy (3)
- MARSCI ### Any Approved Marine Science Course (3)

#### Major Capstone (Choose 1, 3+ credits)

- EGGS 450 Field Experience in Environmental Geoscience (3+)
- EGGS 491 Research in EGGS\*\* (3+)
- EGGS 498 Internship in EGGS\*\* (3+)

\*Counts as General Education Credit

\*\*Cannot count courses twice for different categories, e.g. EGGS 100 cannot be counted in both Core A and Core C; EGGS 496 and 498 cannot be counted in Cognate Electives and Major Capstone unless they are **separate** research projects or Internships.

### General Education Requirements (45 credits)

**Note: Some requirements may be fulfilled by coursework in your major program including directed Gen Ed courses noted below**

- Foundations (15 credits)
  - Directed Gen Ed, if applicable
- Interconnections (9 credits)
  - Directed Gen Ed, if applicable
- Citizenship & Responsibility (6 credits from at least two goals)
  - Directed Gen Ed, if applicable
- Natural World & Technologies (9 credits)
  - Directed Gen Ed, if applicable
- Creativity & Expression (6 credits)
  - Directed Gen Ed, if applicable

### Degree Requirements

All students must obtain a minimum of 120 credits, complete all General Education requirements, and all requirements for the selected major. Meet with your advisor and consult Degree Works to monitor your progress and for all graduation requirements.

A minimum GPA of 2.0 in the major and overall are required.

### Campus Locations

- |                   |  |
|-------------------|--|
| <b>Bloomsburg</b> | <input type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |
| <b>Lock Haven</b> | <input type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |
| <b>Mansfield</b>  | <input type="checkbox"/> Online; <input checked="" type="checkbox"/> In-person; <input type="checkbox"/> Blended |